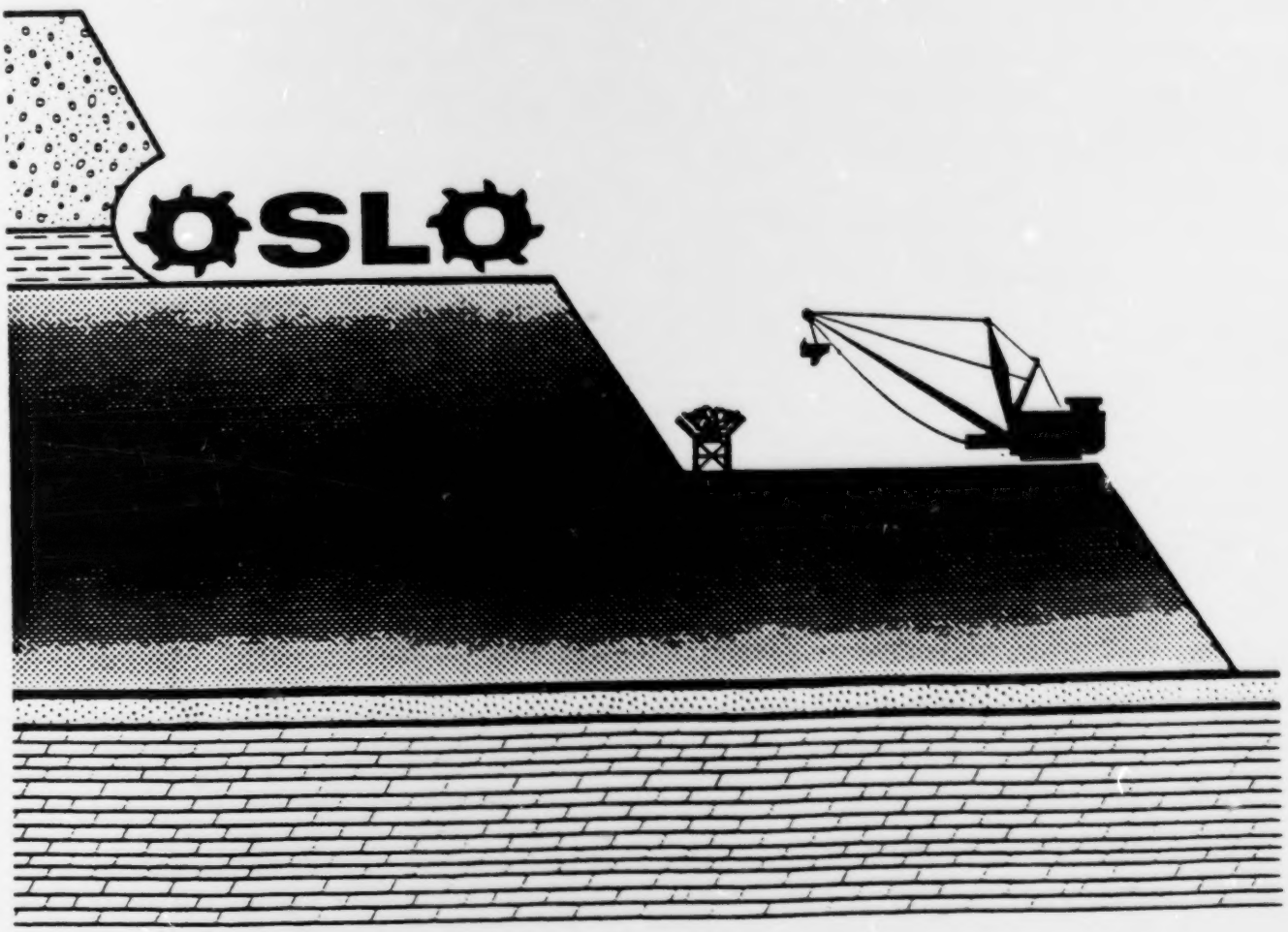
OSLO

An Alberta Oil Sands Project

Background Papers



Canada

Alberta

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PROJECT DESCRIPTION

OWNERSHIP

The OSLO oil sands project is a six company joint venture, all of whom are in the Syncrude eight company joint venture. OSLO is an acronym for Other Six Leases Operation, referring to the other six leases owned by the original Syncrude participants in addition to the two leases that the Syncrude project developed. Ownership shares are as follows:

OSLO Ownership

Esso Resources Canada Ltd. (Operator)	25%
Canadian Occidental Petroleum	20%
Gulf Canada Resources Ltd.	20%
Petro-Canada Incorporated	15%
PanCanadian Petroleum Ltd.	10%
Alberta Oil Sands Equity	10%

Esso Resources is the group operator and is responsible for field and engineering investigations for the joint venture. Alberta Oil Sands Equity is the holder of Alberta's equity share in Syncrude and now OSLO.

PRODUCTION AND LOCATION

The OSLO oil sands project is a 77,000 barrels per day surface mining and synthetic crude oil production plant located about 40 km northeast of the current Syncrude operation near Fort McMurray, Alberta. (see attached map)

Like Alberta's first two oil sands plants (Suncor and Syncrude), OSLO will be a fully integrated operation: mining the resource in the ground, extracting the bitumen from the sand, and upgrading the bitumen to a high quality synthetic crude oil all at the same site. The project will incorporate expertise and build on the successes of the existing oil sands projects. As a new separate grass roots plant, OSLO will diversify Canada's crude oil supply sources and open up a new resource deposit.

RESOURCE

OSLO will open a new oil sands mine on Oil Sands Lease 31. This lease contains 3.5 billion barrels of surface mineable bitumen which is sufficient to support three plants of the proposed size for more than 40 years. Lease 31 has an excellent resource base with the oil sands lying under a thin layer of overburden of 18 metres on average. It also has a low waste/ore ratio of 0.43, and a high average bitumen content of 11.2%.

COSTS

The project has an estimated capital cost of $4.1 billion (as spent). Site preparation and construction will begin in 1991 with the start of production in 1996. Sustaining capital will average about $40 million (1988$) per year and the operating cost will be about $400 million (1988$) per year. To date, OSLO has spent about $30 million on resource evaluation programs, environmental data collection and engineering studies. Another $80 million will be spent in the engineering phase to 1991.

TECHNOLOGY

The technology will be the most recent commercially proven technology available and will build on the many advances already implemented by the Syncrude project including such improvements as cold climate conveyor system materials and operations, hard surfacing of mining equipment and extraction process optimizations.

OSLO Technology

Extraction	- Syncrude's latest warm water extraction
Utilities	- Extensive integration for efficient operation - similar to Syncrude
Tailings	- Tailings pond required
Upgrading	- High yield hydrogen addition - Uses bottoms for steam production - no coke stockpiles - different from coking processes at Syncrude and Suncor

PROCESS DESCRIPTION

The mining plan will involve a conventional multi-bench surface mining scheme, a method similar to that used at the two existing oil sands plants. The mining equipment used will be a combination of both Suncor's and Syncrude's technology. Preliminary plans call for stripping the overburden with hydraulic shovels and removal by large trucks. The underlying oil sand will be mined in three benches (see diagram) - the upper bench with trucks and shovels, the middle bench with a bucket wheel excavator (like Suncor's) and the bottom bench with a dragline and bucket wheel reclaimer (like Syncrude's). This versatile configuration is especially suited to the geological characteristics and thickness of the OSLO ore deposit, which is as thick as 75 metres.

The mined ore will travel to the extraction plant on conveyor belts. In the extraction plant, the bitumen will be separated from the sand using Syncrude's latest water extraction and froth treatment processes and the bitumen will then be fed to the upgrader. There the heavy bitumen will be converted through the application of heat and pressure with the addition of hydrogen, into a light synthetic crude similar to sweet light crude oil. This new high conversion, hydrogen addition upgrading technology is a major change from the delayed and fluid coking technologies used in the existing oil sands plants. This would see more bitumen converted to synthetic crude oil per tonne of ore mined. Liquid yields upward of 100% will be realized instead of the 75% - 85% currently the norm in other oil sands projects. This new technology will result in much higher resource utilization and significant reductions in coke waste produced. This application of high conversion upgrading technology will be a significant step forward for future oil sands plants and upgraders.

Once upgraded, the final synthetic crude oil will be pipelined to Edmonton and on to crude oil refineries.

Other components of the project include an above-ground tailings pond to which the extraction tailings are pumped for settling. The clarified water from the tailings pond is then recycled to the extraction plant to conserve fresh water. There will also be the necessary utility plants, mobile equipment facilities, maintenance shops, storage tanks, and warehouses and administrative buildings.

FUTURE TECHNOLOGICAL DEVELOPMENTS

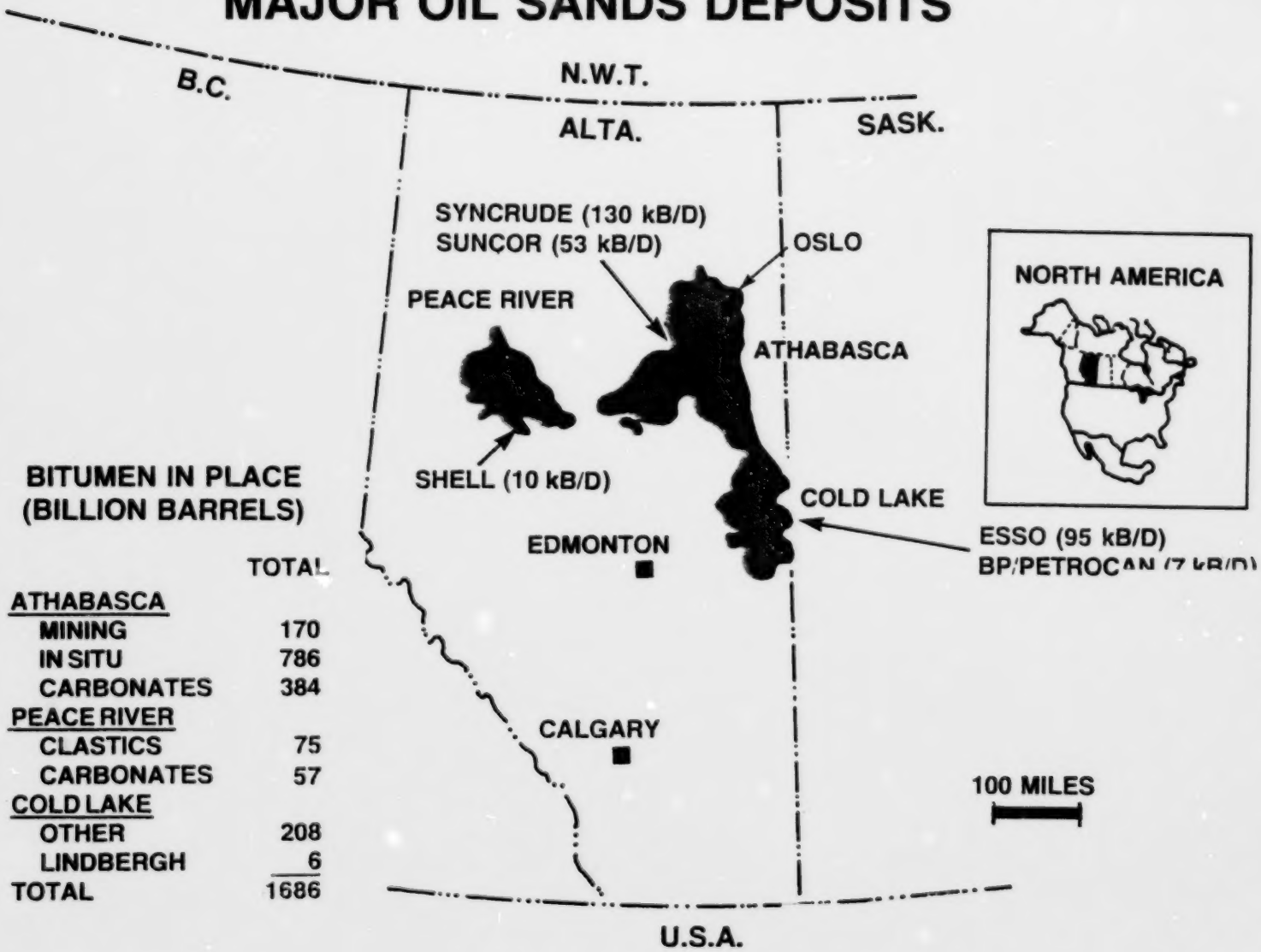
There are many benefits associated with the technological development that will be fostered by this project. Because of OSLO's close relationship with Syncrude, many of the improvements and successes experienced at the Syncrude plant are applicable to the OSLO project. With the ability to call on the world class research at Syncrude's Research and Development Laboratory, OSLO will have access to the background and future trends in the industry.

OSLO is currently undertaking development of new technology on its own. More than $5 million has been spent to date on these programs and expenditures are expected to grow to about $20 million by the end of 1989. One of the major development projects is a new bitumen extraction process called OSLO Cold Water Extraction which utilizes significantly less heat and incorporates a slurry transportation pipeline. This extraction test is being conducted in conjunction with a mining test that uses dredging. As a future mining technique, dredging will eliminate the numerous successive handlings of the oil sands prior to extraction. Such concepts, as they become commercially viable, could be applied to the OSLO project in the future.

FUTURE EXPANSIONS

Significant future capacity additions to the initial 77,000 barrels per day plant can be expected in view of the large size and high quality of the mineable resource on Lease 31. As well, the cost of future expansions will reflect benefits from economies of scale and will be levered by the existence of an established project infrastructure and organization. There is a high expectation for significant technology improvements in what is now a less than fully mature industry.

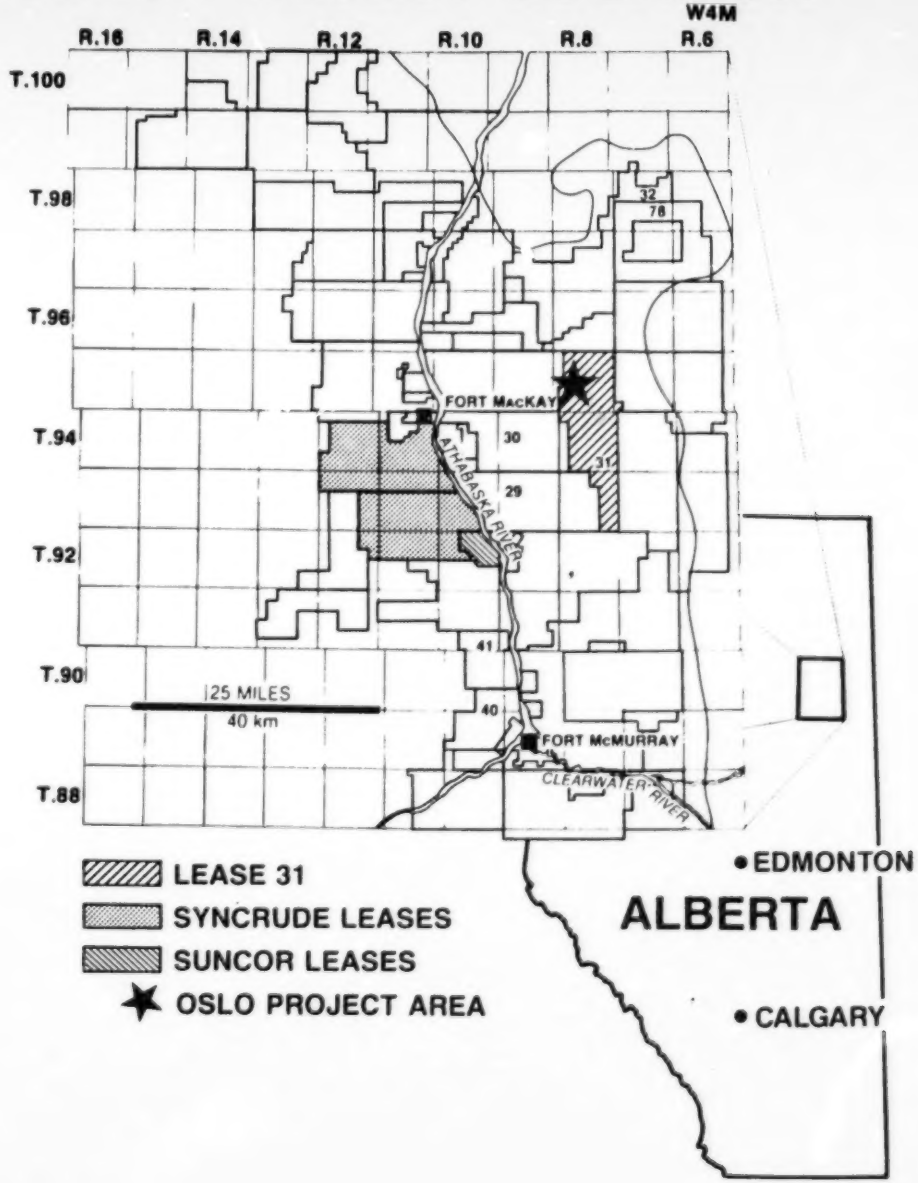
MAJOR OIL SANDS DEPOSITS

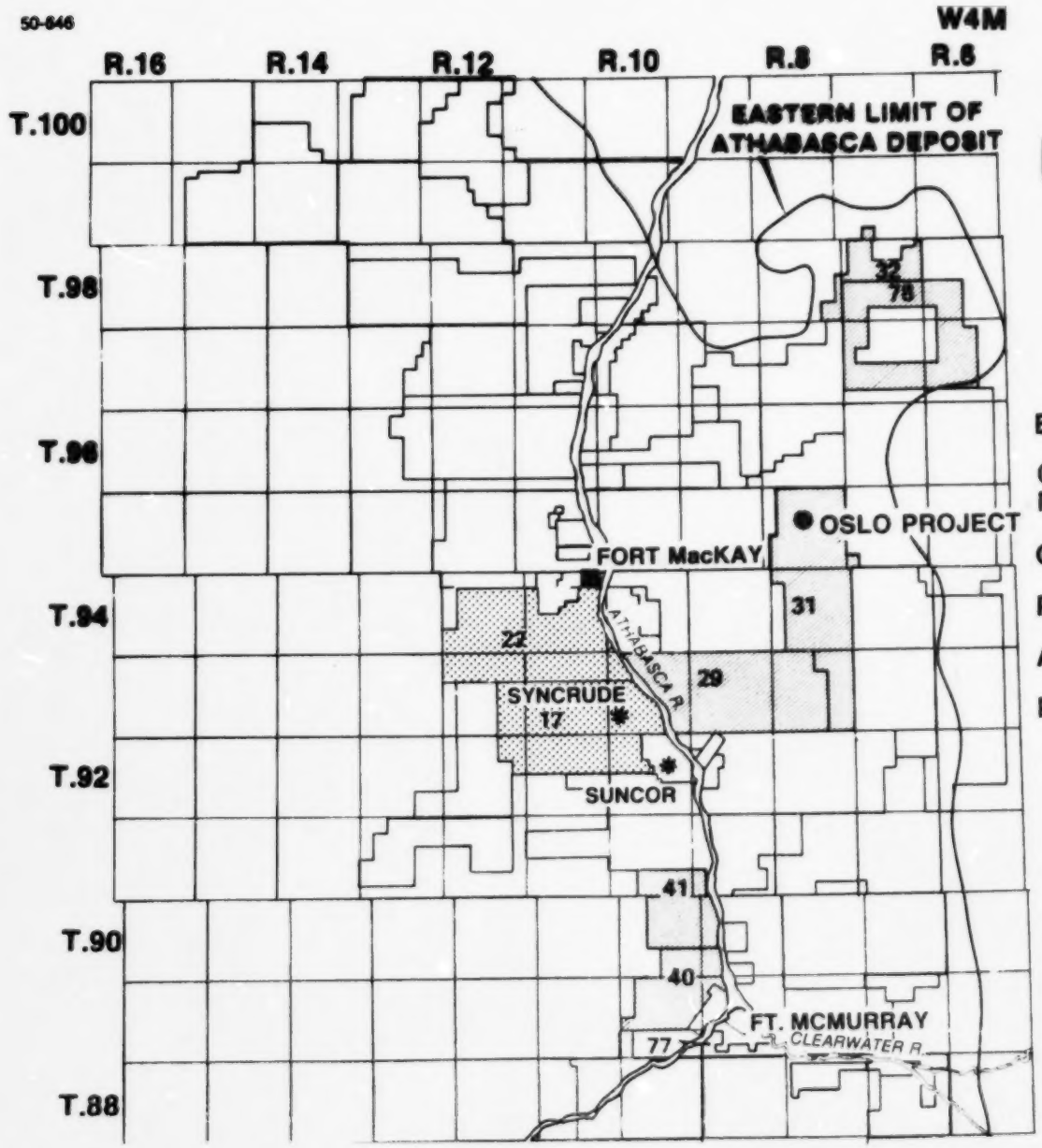


BITUMEN IN PLACE (BILLION BARRELS)

	TOTAL
ATHABASCA	
MINING	170
IN SITU	786
CARBONATES	384
PEACE RIVER	
CLASTICS	75
CARBONATES	57
COLD LAKE	
OTHER	208
LINDBERGH	6
TOTAL	1686

OSLO PROJECT LOCATION





ATHABASCA MINING AREA

OSLO OWNERS

ESSO RESOURCES	25%
CANADIAN OCCIDENTAL PETROLEUM LTD.	20%
GULF CANADA	20%
PETRO-CANADA	15%
ALBERTA O.S. EQUITY	10%
PANCANADIAN	10%
	100%

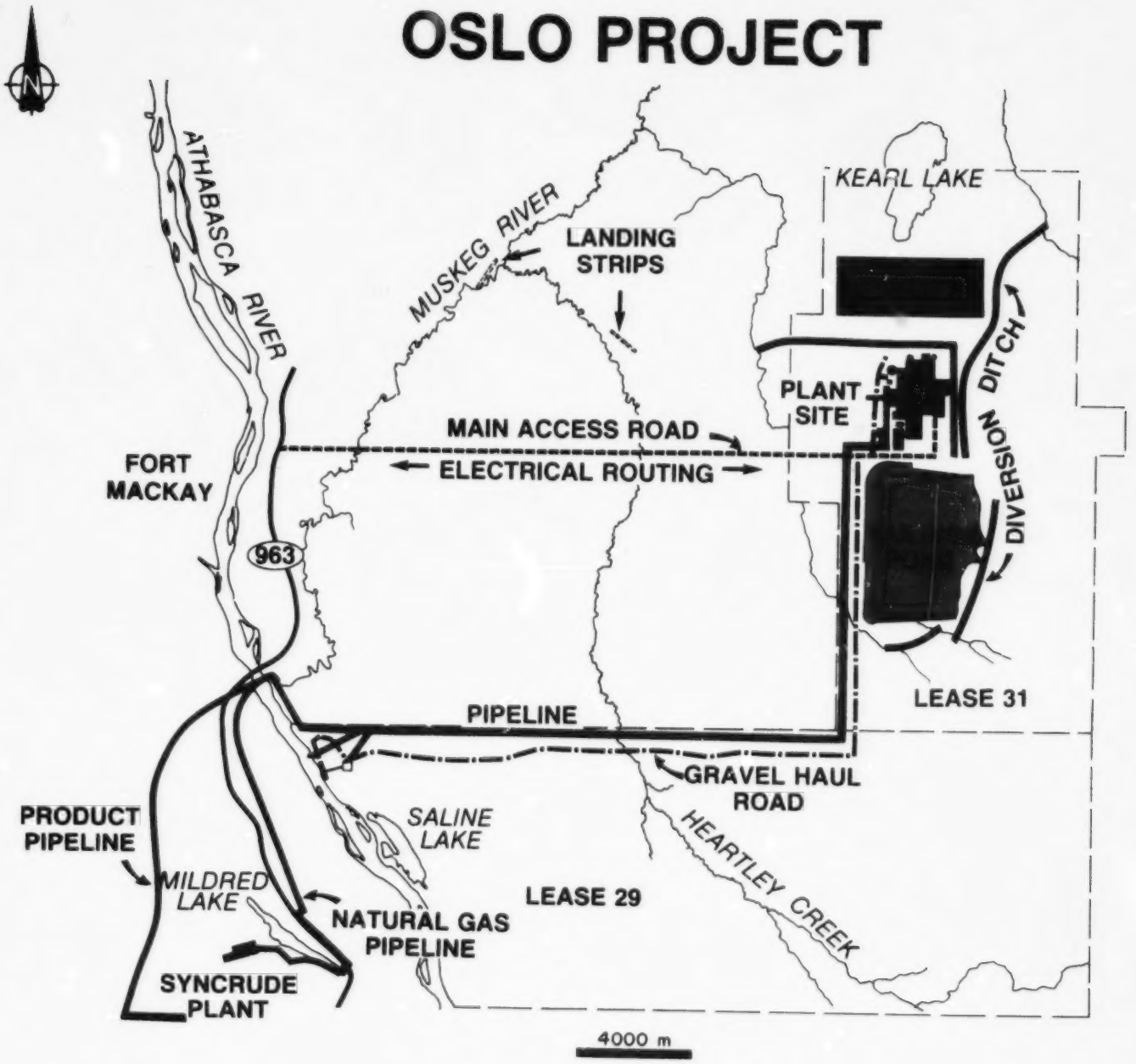
OSLO SIX LEASES

SYNCRUDE LEASES

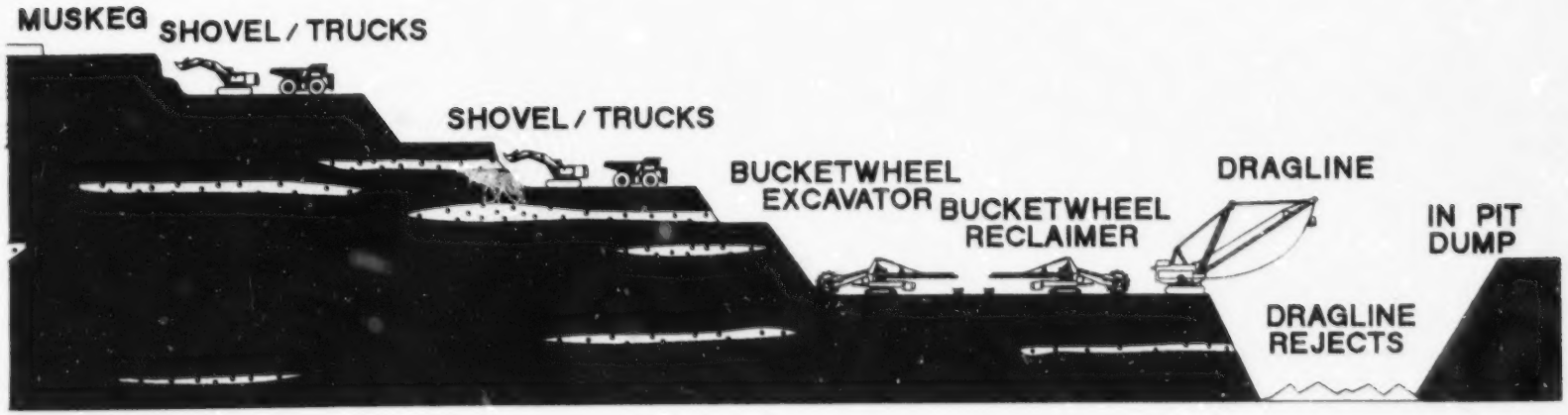
25 MILES

40 km

OSLO PROJECT



OSLO MINE CROSS SECTION



OVERVIEW OF THE STATEMENT OF PRINCIPLES

Funds to cover the completion of engineering studies to bring the project to appropriation and to cover the cost of construction will be provided by a combination of equity investment by the Project Owners, contributions by the Governments of Canada and Alberta, and loans backed by Government guarantees.

OSLO DEVELOPMENT INCENTIVES

The Governments will make a contribution of up to $850 million - the OSLO Development Incentive - to the project . This contribution will be shared equally between the two Governments and may be drawn at the rate of 25% of eligible capital costs as they are incurred on the project.

INDEXED DEVELOPMENT INCENTIVE

The Governments will, in the event of low crude oil prices during the construction period, provide a further incentive - the Indexed Development Incentive - of up to $160 million. The cost of this additional contribution will be funded 30% by the Government of Canada and 70% by the Government of Alberta. The Indexed Development Incentive will provide a contribution of up to 4% of eligible capital costs incurred in any year before production start-up, depending on the extent to which actual prices may be below US$21/bbl (1988$):

- for prices at or below US$19/bbl (1988$), the full 4% is available;
- for prices between US$19/bbl and US$21/bbl (1988$), the incentive available gradually declines from 4% to zero;
- for prices at or above US$21/bbl (1988$), no Indexed Development Incentive is available.

LOAN GUARANTEE

The Governments will guarantee, on an equal sharing basis, non-recourse loans to a maximum of $1.2 billion (excluding capitalized interest during construction) to all equity owners exclusive of Alberta Oil Sands Equity. Funds under the guaranteed loans may be drawn down at a rate of 37.5% of eligible capital costs as they are incurred on the project. Interest will be at prevailing market rates and a 0.5% guarantee fee will be levied annually on the outstanding loan balance.

Repayment of the guaranteed loans will begin 12 months following full production. The rate of repayment will be the greater of (i) 16% of net operating revenues (before taxes and royalties), or (ii) a fixed monthly blended principal and interest repayment

schedule amortized over a 20-year period. The guarantees will be secured by a first charge on all assets of the project (exclusive of Alberta Oil Sands Equity's share) and 1.3 billion barrels of reserves in Lease 31.

TEMPORARY FINANCING FACILITY (TFF)

The Governments, on an equal sharing basis, will provide a further loan guarantee - the Temporary Financing Facility (TFF) - to the Project Owners (excluding Alberta Oil Sands Equity), up to a maximum of $125 million. The TFF will cover cashflow deficiencies to the extent of servicing the debt on the guaranteed loans during operations. The TFF will be available on a revolving basis until nominal payout and a 0.5% guarantee fee will be levied annually on the outstanding loan balance. A Project Owner will dedicate 100% of its share of cashflow to repay any outstanding balances on the TFF. The security for the guarantee of the TFF will be the same as for the guaranteed loans.

INTEREST ASSISTANCE

Before production start-up, the Governments will provide interest assistance to a maximum of $250 million to the Project Owners (excluding Alberta Oil Sands Equity) to the extent of 75% of the interest on the guaranteed loans. The remaining 25% of the interest will be capitalized to a maximum of $85 million and added to the principal of the loan guarantees.

After production start-up, the Governments will provide interest assistance in the event that oil prices are below US$25/bbl (1988$). The interest assistance will be 50% of interest payable at prices at or below US$15/bbl (1988$), diminishing to zero assistance at prices of US$25/bbl (1988$) or higher. The total amount of post production start-up interest assistance is capped at $250 million.

Total interest assistance will be repayable to the Governments, without interest, beginning immediately after full repayment of the guaranteed loans, at a rate of 16% of net operating revenue (before royalties and taxes).

PREVAILING TAX SYSTEMS

The prevailing Federal and Alberta tax systems (corporate, sales, customs, etc.), as they exist from time to time, will apply to this project.

NO MARKET RESTRICTIONS

Production from this project will have full access to domestic and international markets subject to all the necessary legislative and regulatory requirements, and will be marketed at international market prices.

ROYALTY

Production from the project will be subject to a royalty payable to the Province of Alberta, the resource owner. The royalty will initially be 1% of gross production, increasing by 1% increments every 24 months to a level of 5%, and will remain at that level until project payout is achieved. After that payout, the royalty will be the greater of 5% of gross production or 25% of net revenues. Twenty-four months after the guaranteed loans, interest assistance and TFF have been repaid, Alberta's royalty will increase to the greater of 5% of gross production or 30% of net revenues.

There is a provision for deferral of royalties during the pre-payout period in the event that prices are low. If prices are less than US$18/bbl (1988$), the royalty will not exceed 1% of gross production; if US$18/bbl to 18.99/bbl (1988$), the royalty will not exceed 2%; and if US$19/bbl to 19.99/bbl (1988$), the royalty will not exceed 4%. Any deferred royalties will be repaid, with 10% interest, by means of a 2% increment in the net revenue royalty rates following project payout.

NET PROFITS INTEREST (NPI)

Each Government will receive a Net Profits Interest (NPI) in the project, to a maximum of 8% of project net operating revenues. The NPI will commence following repayment of all guaranteed loans, interest assistance and the TFF, and will remain in place until the earlier of 35 years from production start-up or one billion barrels of synthetic crude oil have been produced. The level of the NPI will be indexed to crude oil prices, and the 8% rate will be reduced to the extent that crude oil prices are less than US$30/bbl (1988$).

COMPLETION ASSURANCES

In the event that pre-appropriation engineering studies are not completed, all guaranteed loans and Government contributions will become immediately repayable with interest, as a corporate obligation.

At project appropriation, the Project Owners and Governments are committed to participate further in the project unless project costs are estimated to exceed $4.5 billion or the social return on the project is estimated to be less than 5% (real), based on cost estimates and the price of crude oil at the time. If the estimated social return exceeds 5% (real) and the Project Owners do not proceed, all guaranteed loans and Government contributions become immediately repayable with interest, as a corporate obligation. If expected costs, at that time, are more than 25% below the current $4.1 billion estimate, Governments have reserved the right to renegotiate.

If construction proceeds on the project, the Project Owners commit to spend at least $1.7 billion ($1 billion in cash and $0.7 billion in commitments), as long as estimated

project construction costs do not exceed $4.5 billion. Failure to meet this commitment by all Project Owners results in the guaranteed loans becoming due and payable, plus a 7% interest in the project being transferred to the Governments.

ENVIRONMENT

Recognizing the importance of sustainable development which integrates environmental and economic dimensions, the OSLO Owners and the Governments of Canada and Alberta are committed to ensuring that this development respects the natural environment. To protect the natural environment, the OSLO project must submit an environmental impact assessment for Government review and will be subject to all environmental regulatory requirements.

INDUSTRIAL BENEFITS

In the area of industrial benefits, Albertan and Canadian participation will be emphasized in the design and engineering components and in the development of Albertan and Canadian suppliers, particularly in high value-added areas like specialized manufactured equipment. To achieve this, a detailed industrial benefits plan will be developed for both the construction and operations phases.

EMPLOYMENT

In the area of employment, particular emphasis will be placed on ensuring that Albertans and other Canadians will obtain maximum benefit from the project through such measures as upgrading skill levels and developing technological and management expertise. To achieve this, OSLO will develop a human resources plan that will detail their commitment to maximize the employment opportunities available to all Canadians, with particular attention to local residents.

TECHNOLOGY BENEFITS

The OSLO project provides the opportunity to develop new technologies that are in demand in the international market. OSLO is committed to pursuing the development and demonstration of technology improvements and innovations and to maximizing the long-term benefits to Alberta and the rest of Canada. This new technology will permit enhanced resource extraction and upgrading, enhanced environmental protection and reduced consumption of natural resources.

ECONOMIC BENEFITS

The OSLO oil sands project, apart from its benefits in construction activity and on-going employment has an intrinsically sound economic basis. The project will produce approximately one billion barrels of high quality synthetic crude oil. Apart from the macro-economic benefits of jobs and spin-off activity, the project itself will generate a 15% social rate of return on its investment under a medium price forecast which rises to US$24/bbl in real terms by the year 2000.

Even if today's currently depressed crude oil prices persist for some time, the project is still economically viable. Once the capital facilities have been put in place the project will mine, extract and upgrade the resource to a high quality synthetic crude oil for a total cost of less than US$10/bbl (1988$), ensuring continued economic operation under any realistic foreseeable price.

In short, the OSLO project has significant economic merit under any realistic long-term price scenario even without consideration of its favorable impact on employment and activity within Alberta and within Canada. The vast OSLO resource will allow future expansion which could extend the economic life of the development well beyond the planned project life of 35 years and which could increase rates of production significantly above the 77,000 barrels per day of this project. The experience of Syncrude is encouraging in this regard and we may reasonably expect similiar performance from OSLO. And taking into account the Canadian content of the project of about 80%, it is a very appealing project.

EXPENDITURES

There are net gains to the Canadian economy from an increase in investment in new oil production. This increased investment will enhance the aggregate employment and Gross Domestic Product, even in times of lower oil prices..

Investment in the OSLO Oil Sands plant in Northern Alberta will have a direct effect on the local communities and on major centres in Alberta. There will be significant direct benefits throughout Canada and the associated spin-off benefits will be felt across Canada, especially in engineering and manufacturing.

The expenditures during the engineering and construction phase of this project over the next six years will be more than $4 billion. The majority will be spent during the actual construction period from 1991-1996, just after the expected completion of the Lloydminster Bi-Provincial Upgrader construction.

The operations phase of this project, which will be at least 35 years, will see more than $13.5 billion to be spent on manpower, another $15.6 billion on goods and supplies for

the operations of the plant, and more than 900 million cubic metres (32 billion cubic feet) of natural gas used annually to fuel the plant.

The sponsors are targetting that of the $4.1 billion initial cost of this project, including both materials and labor, Canadian content will be 80%. They will endeavor as well to ensure that of the dollars spent in Canada, 70% will be in Alberta with Ontario and Quebec receiving a substantial share of the balance.

They will aim to have Canadians supply 70% of the required construction materials and equipment of which Alberta is expected to provide 40%, with another 30% coming from other regions of Canada, and the rest from foreign suppliers.

EMPLOYMENT

The OSLO oil sands project will involve a large labor force during both the engineering design and construction phase as well as the operations phase.

The total engineering and project management effort will require about 2,000 person years. A significant portion of this effort will be contractor based with the rest done by the owner's project management team. The engineering work will be carried out over four years and will require about 600 engineers and drafts people at the peak. The full range of engineering disciplines will be required including chemical, mechanical, civil, structural and electrical. A significant focus will be on modularization and pre-assembly given the remoteness of the site and the climatic conditions of Northern Alberta. This means much of the engineering and building will be done in Edmonton and throughout the rest of Alberta and trucked to the site.

The construction phase is estimated to require about 20,000 person years of direct labor with the expected peak construction labor force to reach about 6,000 involving a wide variety of trades.

The operations phase of this project will create about 2,770 direct jobs and another 3,500 indirect jobs over the life of the plant.

The Employment Benefits Table shows the direct and indirect employment which will be generated by this project and the associated Alberta content of this employment. It also shows the employment created by the large natural gas requirement of the project.

The OSLO OIL Sands Project
Employment Benefits

	EMPLOYMENT		
	*DIRECT	**INDIRECT	TOTAL
• Design and Construction Phase			
Person Years	22,000	34,000	56,000
New Jobs (Averaged Over 6 Years)	3,666	5,666	9,332
(% Alberta)	(85%)	(60%)	
• Operating Phase (35 Years)			
Person Years	96,950	122,500	219,450
Permanent New Jobs	2,770	3,500	6,270
(% Alberta)	(100%)	(77%)	
• Natural Gas Purchases (33 BCF/Year)			
Person Years	11,550	17,500	29,050
Permanent New Jobs	330	500	830
(% Alberta)	(100%)	(70%)	
TOTAL PERSON YEARS	130,500	174,000	304,500
EQUIVALENT NEW JOBS	6,766	9,666	16,432

* Design, onsite labor, major material purchases and any personnel directly employed.
** Employment derived in support of the direct employment.

ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

The Governments of Canada and Alberta, and OSLO are committed to ensuring that energy development proceeds in a way which respects the needs of the natural and social environments. Meetings between OSLO and local communities have already taken place. OSLO is committed to ensuring an ongoing sensitivity to environmental and social needs and will maintain an effective, ongoing public consultation process throughout the preparation of the project application to the Energy Resources Conservation Board and all subsequent phases of the project's life.

The Natural Environment

OSLO has already initiated baseline studies of air and water quality, soils, vegetation, wildlife fisheries and other important environmental resources in the vicinity of the project. These and other studies form the basis of environmental impact assessment and mitigation programs which have and will continue to influence development of the project design basis.

The Governments of Canada and Alberta, and OSLO are committed to:

- Including environmental conservation and protection as an integral component of the overall planning process.
- Using the best available technology to protect the environment.
- Ensuring that the project design enables the incorporation of new environmental protection technologies can be incorporated as they become available.

The Social Environment

The Governments of Canada and Alberta and OSLO are also committed to working with local communities to address social concerns and make the project compatible with community needs and objectives.

OSLO has already demonstrated this commitment by meeting with the Fort McKay Band and by agreeing to become a regular attendee of the Fort McKay Interface Committee. That committee has been set up to discuss environmental and socio-economic issues that affect their community when resources are developed.

OSLO has also met with Fort McMurray City Council to keep it advised of the project's status and to set up a process for reviewing issues together.

OSLO is committed to the following:

- To work with the local communities of Fort McKay and Fort McMurray and organizations such as the Athabasca Native Development Corporation to ensure that the local communities, including the native population, have a full and fair opportunity to participate in business and employment generated by the project.
- Operation of a native employment program.
- Formation of a consultative Project Review Group to identify key project issues and work together to resolve them in advance of formal regulatory reviews.

The Approval Process

- OSLO will address the technical, environmental and socio-economic impacts in a comprehensive manner early in the project design process.
- OSLO will prepare a comprehensive Environmental Impact Assessment with public input into its development. OSLO must satisfy the Alberta Government's environmental impact assessment criteria which address federal environmental interests.
- The Environmental Impact Assessment will be in OSLO's project application submitted to the Alberta Energy Resources Conservation Board. Copies are made available to the public at selected locations throughout the province.
- Alberta Environment and the Energy Resources Conservation Board will review the Environmental Impact Assessment. The Government of Canada's environmental concerns and interests are addressed at this time through the Alberta process as provided for under the Canada-Alberta Agreement concerning Environmental Impact Assessment of projects in Alberta.
- The Alberta Energy Resources Conservation Board will hold a public hearing at which any interested parties can participate.
- Following the public hearing process, and after approval by the Energy Resources Conservation Board, environmental protection and land use approvals may be issued. Separate approvals will be issued for the construction phase and the operations phase.

CHRONOLOGY

October 1981	OSLO Joint Venture Agreement signed Esso Resources appointed operator
1982-1983	Exploration and engineering studies
1984	Exploration and geotechnical programs Lease 31 selected for further detailed evaluation
1985	Definition of project site Engineering feasibility studies Preliminary cost estimate
1986	Environmental field programs Technology evaluation studies
1987	Project Definition - A fully integrated 77,000 b/d synthetic crude oil plant Proposal to Alberta and Federal Governments on fiscal terms for the project
Sept. 24, 1988	Signing of Statement of Principles
1989	Finalization of Definitive Agreement
1989-1990	Basic engineering, design and pre-appropriation site work Energy Resources Conservation Board review Environmental approvals required before construction
July 1, 1991	Latest date for project appropriation
1991-1996	Detailed engineering and construction
1996	Project start-up

THE CONTRIBUTION OF SYNTHETIC CRUDE OIL TO CANADA

INTRODUCTION

The development of the Alberta oil sands has meant more to Canadians than just the flow of Canadian oil into Canadian refineries.

It means permanent jobs and incomes throughout Canada. It means development of new manufacturing, service and technological opportunities. It means increased revenues to Governments.

In short, it means building a stronger and secure future, with economic development for the entire nation.

BACKGROUND/EARLY HISTORY

During the early days of what is now Alberta, native Indians discovered outcroppings of a sticky, black substance in river banks and ground deposits. They found this substance to be useful for waterproofing their canoes.

In the 1770s, Peter Pond became the first of many fur traders and explorers to find the sands both intriguing and useful.

By the 1870s, the first geological studies performed in the area began supporting a notion that the deposits contained great economic potential, and by the 1940s the technological groundwork for development of this resource was in place.

The immense oil sands resource base in Alberta comprises three major deposits, the Athabasca, Peace River and Cold Lake formations. Of these, only the Athabasca formation is close enough to the surface to allow mining.

This formation, located in north eastern Alberta, is also the largest of the three deposits, with more than 880 billion barrels of bitumen in place. This bitumen which averages 11% by weight of the oil sand, is 50 to 60% oil. Because of the chemical alterations required to convert the semi-solid bitumen into a liquid, the final product is referred to as synthetic crude oil.

COMMERCIAL OIL PRODUCTION

Production of synthetic crude oil from the Athabasca deposits has been a part of the Canadian oil supply picture since 1967. In September of that year, Great Canadian Oil Sands Limited, now known as Suncor, began production.

That Suncor was "in business" before the international oil crises of the 1970s shows early recognition of the true economic value of this resource. Building on decades of research carried out by various parties, this major commercial operation added immensely to the technology required to produce synthetic crude oil. Since those early days of production from the Suncor plant, synthetic crude production has increased dramatically.

During the late 1960s and early 1970s, a group of companies operating under the name Syncrude proposed a second oil sands mining operation in the Athabasca deposit. Syncrude, like Suncor, had been proposed by visionaries who realized the economic potential of synthetic crude oil production. The second project was doubly vindicated when production came on stream in 1978, only months before the second world oil price shock. By this time, project owners included the Governments of Canada, Alberta and Ontario who realized both the economic and strategic value of the project.

In 1983, Syncrude began its Capacity Addition Project, while in 1985 Suncor began a debottlenecking/expansion program. Today, these two projects are capable of producing 70 million barrels of synthetic crude oil each year.

In 1973, Alberta's production of conventional oil peaked and synthetic crude oil accounted for less than 4% of total crude oil production. By 1987, conventional production declined by 32%, but a 350% increase in synthetic production helped make up the shortfall. In 1987 Alberta supplied more than 80% of Canadian crude oil. During 1988, synthetic crude oil will account for roughly 15% of Canadian light oil production.

Alberta Production of Conventional and Synthetic Crude Oil
(Million barrels per year)

	Conventional	Synthetic	Total
1973	522	19	541
	96%	4%	100%
1978	377	20	397
	95%	5%	100%
1983	350	58	408
	86%	14%	100%
1988	365	70	435
	84%	16%	100%

INDUSTRIAL AND TECHNOLOGICAL BENEFITS

Since 1980, synthetic crude oil production has generated gross revenue of $14.6 billion. Over the same period, capital expenditures have totalled over $1.7 billion.

Suncor and Syncrude have both maintained a high Canadian content in expenditures. This content has increased over the years as each project/expansion leads to further development of a Canadian infrastructure capable of serving the needs of oil sands mining and upgrading.

For example, of the more than $2 billion spent on the original construction of Syncrude, more than 80 per cent was spent in Canada. Syncrude's more recent $1.2 billion Capacity Addition Project resulted in spending within Canada rising to 90 per cent of total expenditures.

The two projects have continued to create manufacturing and service opportunities in Canada, at the same time building the expertise needed to ensure that future projects will continue to have a high Canadian content.

The development of the resource has generated the creation of unique technology, and technological expertise - from the bucket wheel excavators to the extraction techniques, from environmental systems to the upgrading process. Much of this technology is being marketed internationally.

EMPLOYMENT

Construction and expansion of the existing plants has provided significant Canadian employment over the past two decades, with hundreds of thousands of person years of construction employment, and thousands of permanent jobs.

Today, the two plants directly employ more than 6,500 people. Outside services and manufactured goods required by the plants create indirect employment for another 9,750 jobs, bringing total direct and indirect Canadian employment to more than 16,000 jobs.

The City of Fort McMurray serves as a gauge of the employment generated by oil sands mining. From a population of just over 1,000 in 1961, the settlement has grown to full city status and a population of almost 37,000.

GOVERNMENT REVENUE

The people of Canada have benefited directly from the tax and royalty revenues generated from the production of synthetic crude oil. Since 1980, the two projects have generated corporate and personal taxes of over $500 million for the Governments of Canada and Alberta.

Owing to the capital intensive nature of these projects, the royalty regimes have been adjusted to allow rapid recovery of investment. Despite this, the Government of Alberta has received over $1.4 billion in royalty revenue since 1980.